

REMARKS/ARGUMENTS

STATUS OF CLAIMS

In response to the Office Action dated December 22, 2006, claims 1, 12 and 15-18 have been amended, and claim 19 has been added. Claims 1-19 are now pending in this application. No new matter has been added.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 102 AND § 103

I. Claims 1-5 and 12-18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shiga et al. (USPN 5,635,813) in view of Kaneko (JP 2000-022578).

Claims 6-11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shiga et al. (USPN 5,635,813) in view of Kaneko (JP 2000-022578), and further in view of Orlando (USPN 6,020,082). Orlando has been relied upon by the Examiner as disclosing battery information band strips placed equidistance from the ends of the battery so that the device can readily read the information off the bands without having the user accurately place the battery in the device.

II. As to claim 1, the Examiner states that it is obvious to use the "wireless tag 2" of Kaneko as a substitute of "ID generator 2" of Shiga et al. Shiga et al. discloses obtaining battery information from the ID attached to the battery, and that a barcode or a ROM can be applied as ID. However, using the wireless tag in the present application has the following special merits:

- (1) In Shiga et al., since the ID is "barcode or ROM", battery information can be read from the ID, but cannot be written to it. Batteries have a certain cycle life.

Therefore, writing information in the wireless tag in order to accurately control the batteries is necessary.

(2) When putting a "barcode" on a standard AA battery as an ID, it has to be placed on side-faces of the battery since the ends of the battery are plus and minus electrodes. Consequently, there will be a problem of the barcode prints possibly being scrapped off and/or coming off as a result of "taking out" or "putting in" the batteries. Similarly, scanning the barcode requires a scanner to be arranged in the battery housing, causing problems such as a rise in cost and ensuring space for the housing itself. Furthermore, if the barcode is printed on battery surface, it will take up all the space for printing necessary wordings for the battery (e.g. Recycle Mark, Safety Precautions, etc). However, by using the wireless tag of the present application, these problems will not occur.

(3) When attaching a "ROM" as an ID to realize Shiga et al., the battery pack shown in Japanese Patent Application Laid Open 9-297166 will be needed. This will lead to a need in setting a connector to the battery or setting a microcomputer, which are very costly. Furthermore, since a microcomputer is built in, it uses electric power even when the batteries are not used, which has a negative effect upon battery capacity. Similarly, since batteries have a certain life duration, microcomputers and ROMs are thrown away when the battery's life "runs out". This results in a problem of wasting resources. Furthermore, Applicants believe that it is impossible to build a ROM inside a standard AA battery, considering the battery's configuration as well as cost. By using the wireless tag of the present

application, these problems will not occur since the coil part of the wireless tag can be attached to the periphery of the AA batteries, and because the cost of the coil part is currently approximately \$0.04 each and is expected to be \$0.02 each or less in the future.

(4) When attaching a "ROM" as an ID, the battery remaining energy cannot be checked without being connected to the device. In contrast, the wireless tag of present application is able to read the battery remaining energy on its own without being attached to the device.

(5) As stated above in (2) and (3), it is practically impossible to apply the ID of Shiga et al. to D, C, AA and AAA batteries, the currently most popular batteries. However, the wireless tag of the present application can be applied to the standard batteries without any problem.

III. To expedite prosecution, independent claim 1 has been amended to delineate, *inter alia*:

a reading device which reads information about the battery stored in a wireless tag provided on the battery ***by non-contact communication with the wireless tag;***

an activating device which activates a power source of the wireless tag when said non-contact communication is started;

a recognition device which recognizes the information about the battery read by said reading device;

a warning display device which displays a battery remaining energy warning; and

a warning generation device which generates battery remaining energy warning information according to the information recognized by said recognition device, and sends the generated information to said warning display device.

Independent claims 12 and 15-18 have been amended to recite similar subject matter.

The features now recited in independent claims 1, 12 and 15-18, as well as claims 6-11, are not disclosed or suggested in Shiga et al. and Kaneko. Consequently, the allowance of claims 1-18, as amended, is respectfully solicited.


CONCLUSION

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Edward J. Wise (Reg. No. 34,523) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: March 22, 2007

Respectfully submitted,

By 

Marc S. Weiner

Registration No.: 32,181

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East, P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant